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EXAMINER BENZON, GREG C				
ART UNIT 2144		PAPER NUMBER		
NOTIFICATION DATE 06/12/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

Application No.

09/735,919

Applicant(s)

HERRMANN ET AL.

Examiner

GREG BENZON

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 26-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date: \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

This application has been examined. Claims 26-35 are pending. Claims 1-25 are cancelled.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/21/2008 has been entered.

***Priority***

The effective date of the claims described in this application is December 16, 1999.

***Claim Interpretation***

Before any construction of the claims occur, it is essential that the terms in the claim(s) be clearly defined. Here are the definitions which the Examiner has determined to be most reasonable for important terms in the claims. In light of the; overly broad and nebulous disclosure, these definitions will be relied on to properly understand what is being claimed.

1. Agent: an autonomous process performing a service (as used in the art)
2. Indicators: scalar (numerical) representations of states of computing components (per present specification, Page 1, Lines 17-23)
3. Indicator agents: process which determines particular indicators (per present specification, Page 1, Lines 17-23)
4. Domain: logical grouping of network computing nodes (per present specification, Page 4, Lines 11-12)
5. Configuration agent: process which creates indicator agents (per present specification, Page 10, Lines 15-26)
6. Subscriber List: a data table storing the names of other indicator agents.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 26-35 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 26-35 are directed towards a '*deployment device*' comprising of '*indicator agents*', '*configuration means*' and '*writing means*'. Upon inspection of the Applicant Specifications Page 5 Lines 15-25, Page 8-10, Page 16-17, Page 21 the Examiner concludes said '*indicator agents*', '*configuration means*' and '*writing means*' are nothing more than software components.

Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 26-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 recites "*an equation for calculating said value*". Since no equation has been expressly defined, it is impossible to determine proper metes and bound of this limitation.

It is suggested that positive, functional behavior be recited in the claims so the metes and bounds of the claims can be easily ascertained, and a definition of what it is the inventor seeks to patent is reasonably and clearly stated.

Claim 26 recites '*indicators comprising a value and an indicator-defining equation for calculating said value.*' The Examiner notes that there is insufficient guidance in the Applicant Specifications regarding said limitation. The Examiner notes that where said Indicators are scalar (numerical) representations of states, then the same indicator cannot be comprising a mathematical equation at the same time.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. §103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR §1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. § 103(c) and potential 35 U.S.C. §102(f) or (g) prior art under 35 U.S.C. §103(a).

Claims 26-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turek et al. (U.S. Patent Number 6,460,070), hereinafter referred to as Turek, in view of

Jung et al. (U.S. Patent Number 6,308,208) further in view of Anerousis (US Patent 6393472).

Using the above definitions for claim terms, Examiner has concluded that the independent claims (i.e. Claim 26) require determination of a set of variables (i.e., indicators) to dictate what is intended to be measured (i.e., indicated) at specified nodes, on a list, defining a given domain. Among these nodes on the list, processes are spawned/created/configured/etc., to determine the specified indicators on each node. The dependent claims range from arbitrary function call names to agent process generalizations.

Turek disclosed construction of software agents by selection or assembling one or more tasks. See, inter alia, Column 2, Lines 37-41, and Column 7, Lines 49-57. This agent is deployed to measure one or more "indicators" at the specified node(s). See, inter alia, Column 2, Lines 47-49. The disclosed gateways act to manage their own "domain" of nodes. See, inter alia, Column 4, Lines 50-58. The system is equipped to recognize and rectify myriad differing network conditions.

Jung provided very similar teachings, related again with network conditions and deployed agents. See, inter alia, Columns 1-2. Jung expressly disclosed the scalar



measurement of "indicators" as claimed. See, inter alia, Column 2, Line 26 through Column 3, Line 6. The system acted to propagate determined values of network measured resources to other agents in the system for coordinated system management. See, inter alia, Column 3, Lines 2-6. This provided a mechanism for monitoring and managing an entire realm of system "indicators". See, inter alia, Column 4, Lines 34-38. The system used atomic indicator agents which were capable of referencing each other, while having attributes indicating state (i.e., indicating agents, and indicators, as claimed). See, inter alia, Column 6, Line 63 through Column 7, Line

Also, the "cells" were completely customizable, equipped to perform any one or various sets of functions. See, inter alia, Column 7, Lines 10-19. Thus, the system operated to propagate changes and observed states to other autonomous agents for purely distributed management. Lastly, the use of multiple agents (i.e., the use of concurrently operating/executing cells and maintenance of cell states) was likewise evident. See, inter alia, Column 7, Lines 32-61. 33. The combination of these teachings was not challenged by Applicant. This makes sense, since the inventions are subcombination usable together on the same system. Note Figures 1, both Patents. The resulting systems provided a system operating to configure and deploy operating agents to specified domains which resulted in logical arrangements of monitored "indicators".

Turek disclosed (re. Claim 26) a plurality of indicator agents that evaluate indicators, each indicator characterizing the status or the operation of one or more

resources of the computer system. (Turek- Column 2, Lines 37-41, and Column 7, Lines 49-57)

Turek disclosed (re. Claim 26) configuration means (Turek-Column 4 Lines 40-55) that specifies the domain or domains of the computer system [Turek- (Turek-Column 4 Lines 40-55, '*managed region*') in which each indicator agent should be deployed, the configuration means comprising a configuration deployment agent (Turek-Column 7 Lines 50-60, '*dispatch mechanism*') that creates, for each resource to be monitored, a configuration agent, wherein each configuration agent creates the plurality of indicator agents for the resource and each indicator agent evaluates one of the plurality of indicators, each indicator agent managing a subscriber list.

While Turek substantially disclosed the claimed invention, Turek did not disclose (re. Claim 26) writing an identification of at least one other indicator agent on a subscriber list stored on the storage means of the computer equipment associated with the indicator agent. Turek did not disclose (re. Claim 26) an equation for calculating the value of said indicators.

Jung disclosed (re. Claims 26) writing an identification of at least one other indicator agent (Jung-Column 8 Lines 5-15, '*control mechanism implementing cell identification techniques and cell state propagation*') on a subscriber list stored on the storage means of the computer equipment associated with the indicator agent. (Jung-

Figure 5, Item 52n and Item 55, Column 7 Lines 25-30,'propagation control mechanism')

Jung disclosed a propagation control mechanism in each cell, such that each cell is aware of the observing cells that need to know the state changes being propagated.

Turek,Jung, and Anerousis are analogous art because they present concepts ant practices regarding distributed network monitoring agents. At the time of the invention it would have been obvious to combine Jung into Turek. The motivation for said combination would have been (Jung-Column 1 Lines 65) to provide a resource model-based management scheme that operates across distributed nodes.

Anerousis disclosed (re. Claim 26) an indicator compiler that generates for each indicator, after analyzing an equation associated with the indicator, (Anerousis-Column 8 Lines 10-15) two object classes, which respectively correspond to the indicator deployment agents that deploy the agents (Anerousis-Column 10 Lines 60-65,'every AMO must be instantiated within a MAVS') and to the indicator agents that evaluate the indicator. (Applicant-Figure 1, Column 7 Lines 45-55,'Aggregated Managed Objects')

The Examiner notes that Anerousis disclosed a special management agent called MAVS which is equivalent to the claimed invention's 'I\_Deployer' object class. Similarly Anerousis disclosed AMOs which are equivalent to the claimed inventions' 'I\_Indicator' object class.

Furthermore Anerousis disclosed analyzing a selection formula [filter function] in order to determine which indicator agents [*managed objects*] are used to evaluate each indicator.

Turek,Jung, and Anerousis are analogous art because they present concepts and practices regarding distributed network monitoring agents. At the time of the invention it would have been obvious to combine Anerousis into Turek-Jung. The motivation for said combination would have been (Anerousis-Column 2 Lines 35-40) to aggregate the control of a large number of network elements into simpler interfaces.

Turek-Jung-Anerousis disclosed (re. Claim 27) wherein each configuration agent comprises means which creates an indicator agent (Turek-Column 7 Lines 50-55) for each indicator of the resource to which said indicator is assigned, said indicator agent being an indicator deployment agent which determines, for the indicator with which said deployment agent is associated, various combinations of the values (Turek-Column 7 Lines 10-15, *'events of which they are interested in receiving notice'*) of the variables used by the equation from which said indicator is calculated. (Anerousis-Column 8 Lines 10-15)

While Turek-Jung substantially disclosed the invention, Turek-Jung did not disclosed (re. Claim 28) an indicator compiler that generates for each indicator, after analyzing the equation from which said indicator is calculated, two object classes "I\_Deployer" and "I\_Indicator", which respectively correspond to the indicator deployment agents that deploy the instances of the class "I\_Indicator" and to the indicator agents that evaluate the indicator.

While Turek-Jung substantially disclosed the invention, Turek-Jung did not disclosed (re. Claim 28) wherein the first class object "I\_Deployer" is configured to specify which indicator agents identified by the second object class "I\_Indicator" must be created and to declare to a naming service the indicator agents actually created.

Turek-Jung-Anerousis disclosed (re. Claim 28) an indicator compiler that generates for each indicator, after analyzing the equation from which said indicator is calculated, (Anerousis-Column 8 Lines 10-15) two object classes, which respectively correspond to the indicator deployment agents that deploy the agents (Anerousis-Column 10 Lines 60-65,'every AMO must be instantiated within a MAVS') and to the indicator agents that evaluate the indicator. (Applicant-Figure 1, Column 7 Lines 45-55,'Aggregated Managed Objects')

Turek-Jung-Anerousis disclosed (re. Claim 28) wherein the first class object "I\_Deployer" is configured to specify which indicator agents identified by the second object class "I\_Indicator" must be created (Anerousis-Column 10 Lines 60-65,' every AMO must be instantiated with a MAVS') and to declare to a naming service the indicator agents actually created. (Anerousis-Column 11 Lines 15-20,' AMO service registry')

The Examiner notes that Anerousis disclosed a special management agent called MAVS which is equivalent to the claimed invention's 'I\_Deployer' object class. Similarly Anerousis disclosed AMOs which are equivalent to the claimed inventions' 'I\_Indicator' object class. Furthermore the MAVS instantiate AMOs according to the aggregation rule and filter function being performed being applied to the AMO.  
(Anerousis-Column 4 Lines 1-10)

Furthermore Anerousis disclosed analyzing a selection formula [filter function] in order to determine which indicator agents [*managed objects*] are used to evaluate each indicator. (Anerousis-Column 8 Lines 10-20)

At the time of the invention it would have been obvious to combine Anerousis into Turek-Jung. The motivation for said combination would have been (Anerousis-Column 2 Lines 35-40) to aggregate the control of a large number of network elements into simpler interfaces.

Turek-Jung-Anerousis disclosed (re. Claim 29,30) the indicator agent comprises name resolution means which resolves the names of objects referenced from which the indicator is calculated (Anerousis-Column 8 Lines 25-30, *'resolved into a list of element management agents'*)

Turek-Jung-Anerousis disclosed (re. Claim 31) searching for all objects identified in the equation from which the indicator is calculated, (Anerousis-Column 8 Lines 25-35) and

means which creates the indicator agent associated with the indicator deployment agent if the constraint is satisfied, using as parameters the objects corresponding to the valid combinations of the values of the variables found.

Turek-Jung-Anerousis disclosed (re. Claim 32,33) wherein the configuration deployment agents and the configuration agents are managed by at least one agent

machine installed in at least one resource of the monitored domain, (Anerousis-Column 7 Lines 50-65) said one agent machine being configured to handle the distribution of one or more subscription notifications and the transmission of the subscription notifications and the management of overall indicator agent atomicity. (Jung- Figure 5, Item 52n and Item 55, Column 7 Lines 25-30, 'propagation control mechanism')

Jung disclosed a propagation control mechanism in each cell, such that each cell is aware of the observing cells that need to know the state changes being propagated. The Examiner notes that since Anerousis disclosed separate MAVS (Anerousis-Column 11 Lines 40-45) it would have been obvious to combine the propagation mechanism by Jung into the MAVS hierarchy by Anerousis in order for the aggregation system to work.

Turek-Jung-Anerousis disclosed (re. Claim 34,35) means which manages each indicator deployment agent either by the agent machine that manages the configuration agent associated with the indicator deployment agent, or by a different agent machine (Anerousis-Column 7 Lines 50-65) said agent machine being configured to handle the distribution of one or more subscription notifications and the transmission of the subscription notifications and the management of overall indicator agent atomicity. (Jung- Figure 5, Item 52n and Item 55, Column 7 Lines 25-30, 'propagation control mechanism')



***Response to Arguments***

Applicant's arguments filed 03/21/2008 have been considered but are not persuasive.

The Examiner respectfully maintains the USC 112 rejection. While the Applicant points out that said values indicate status or operation of the resource being monitored the Applicant Specifications do not indicate any such status or operation. Thus the claims encompass values representing status, statistics, measurements and operations that have not been invented. Hence a person of ordinary skill in the networking art would not be able to ascertain the scope and bounds of the claims. Furthermore the claims also indicate equations where the Specifications do not indicate any such equation. Thus the claims encompass any equation, formula or mathematical algorithm including those which have not yet been invented.

The Applicant presents the following argument(s) [*in italics*]:

*Jung does not appear to teach that the subscriber list being managed by the associated indicator agent, and stored using storage means of the computer equipment associated with the indicator agent.*

The Examiner respectfully disagrees with the Applicant.

The Examiner notes that the subscriber list is a data table storing the names of other indicator agents. Jung disclosed a monitoring node for storing attributes and event corresponding to an observed node, where the observed attributes and events are stored a local database (Jung-Column 1 Lines 15-20), said local database thus being equivalent to a subscriber list.

Jung disclosed a propagation control mechanism in each cell, such that each cell is aware of the observing cells that need to know the state changes being propagated. (Jung- Figure 5, Item 52n and Item 55) Thus Jung disclosed that each cell is storing a list of other nodes in its local database.

Where Jung disclosed cell identification and state change propagation where said cell information is maintained on a database, Jung disclosed '*where each writing means is arranged to write an identification of at least one other indicator agent in the subscriber list.*'

The Examiner notes that it would have been inherent for the control mechanism by Jung to have writing means associated with each node, in order to update the node local database.

The Applicant presents the following argument(s) *[in italics]*:

*... Jung fails to teach or suggest that writing means associated with each indicator agent are configured to write in an associated subscriber list, upon receiving a subscription notification from at least one other indicator agent, an identification and management information of the at least one other indicator agent, as recited in Claim 26.*

*As noted above, Anerousis fails to cure the above-noted deficiencies of Turek and Jung, nor has the Office Action relied on Anerousis for such teachings.*

The Examiner respectfully disagrees with the Applicant. Jung disclosed Column 7 Lines 1-10 cell attributes being a function of the cells being observed. Where an operator is able to select cells to observe Column 8 Lines 50-65 then Jung disclosed the equivalent of receiving a subscription notification from at least one other indicator agent.

### **Conclusion**

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part

of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Bengzon whose telephone number is (571) 272-3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571)272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. B./

Examiner, Art Unit 2144

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2151